

THE TRIBAL PLACEMENT OF *XENOGENUS*  
(HEMIPTERA: RHOPALIDAE: RHOPALINAE)

CARL W. SCHAEFER

Department of Ecology and Evolutionary Biology, University of Connecticut, Storrs, Connecticut 06269-3043.

---

*Abstract.*—*Xenogenus* Berg, 1883, is returned to the Chorosomatini. It had been removed therefrom to the Harmostini, based upon overall similarity. However, cladistic evidence indicates that the genus belongs in Chorosomatini. *Xenogenus* shares two apomorphies with members of Chorosomatini, and none with members of Harmostini.

*Key Words:* Chorosomatini, Harmostini, family-group classification, *Xenogenus*

---

When Berg (1883) described *Xenogenus*, he placed it in Harmostini. Distant (1893) agreed, because *Xenogenus*, like *Harmostes* and *Aufeius* (the two members of Harmostini), has incrassate and spined hind femora. Barber (1910) also agreed, writing that *Xenogenus* has “the appearance of a long, narrow *Harmostes reflexulus* [sic]” (p. 37). In erecting Harmostini (for *Harmostes* and *Aufeius*), Stål (1873: 97) included as defining characters incrassate and spined hind femora, and a toothlike extension of the pronotum’s anterolateral angles; *Xenogenus* lacks the latter feature.

In 1967, Chopra transferred *Xenogenus* from Harmostini to Chorosomatini. Göllner-Scheiding accepted this transferral in her discussion of the genus (1980) and in her catalog of the Rhopalidae (1983). Chopra (1967) moved *Xenogenus* to Chorosomatini largely because it, and the five other genera he included in that tribe, share uniquely advanced characters of the male genitalia. Moreover, the genus lacks the pronotal extension, a defining feature of the Harmostini.

However, in a paper not mentioned by Göllner-Scheiding (1983), Brailovsky and Soria (1980) moved *Xenogenus* back into

Harmostini. They gave two reasons for doing so: All members of Harmostini are New World, but only *Xenogenus* (of the six genera in Chorosomatini) is New World. And *Xenogenus* resembles *Harmostes* and *Aufeius* in both external and internal structure. No details of this resemblance are provided, and no attempt appears to have been made to find similarities between *Xenogenus* and other members of Chorosomatini.

The general similarities between *Xenogenus* and members of the Harmostini are probably plesiomorphic within the Rhopalinae, and are shared with several members of other tribes: the spined and incrassate hind femora (used by Stål in defining Harmostini), small size, lightly setose body, translucent forewings sometimes speckled and/or suffused with red. These general features—to which both Barber (1910) and Brailovsky and Soria (1980) presumably refer—do not uniquely ally the genus and Harmostini.

The fact that *Xenogenus* is the only New World genus of Chorosomatini does not support Brailovsky and Soria’s (1980) contention that this genus should be removed to Harmostini. Although Harmostini is indeed exclusively New World, representa-

Table 1. Characters whose apomorphic states define Harmostini or Chorosomatini (from Schaefer and Chopra 1982), and their condition in *Xenogenus* (apomorphic states are in **boldface**).

Harmostini	<i>Xenogenus</i>	Chorosomatini
Parameres broad	parameres slender <sup>a</sup>	<b>parameres slender</b>
Two pairs ventrolateral conjunctival ap- pendages	three pairs <sup>a</sup>	<b>three pairs</b>
<b>Distal ends of second valvulae fused</b>	not fused <sup>a</sup>	not fused
<b>Midcephalic sulcus straight</b>	sulcus Y-shaped <sup>b</sup>	sulcus Y-shaped
<b>Female's ninth tergum with median apodeme</b>	without apodeme <sup>c</sup>	without apodeme
<b>Peritreme of metathoracic scent gland apparatus absent</b>	peritreme reduced <sup>b</sup>	peritreme reduced

<sup>a</sup> From Chopra (1967).

<sup>b</sup> This paper.

<sup>c</sup> From Göllner-Scheiding (1978, Table 1).

tives of three other rhopaline tribes also occur in the New World (Schaefer 1992, 1993), as do members of the other subfamily, Serinethinae (Göllner-Scheiding 1983). The presence of these rhopalines in the New World is the result of at least six invasions from the Old World, and the presence of *Xenogenus* in the New has been explained similarly (Schaefer 1993).

Moreover, both *Ithamar* (Hawaii) and *Leptoceraea* (Palearctic) (both Chorosomatini) resemble Harmostini and *Xenogenus*, particularly in having spined and incrassate hind femora (Chopra 1967). By the "general resemblance" argument they too should be placed in Harmostini; and, by the distributional argument, they should be excluded from this tribe. The two arguments of Brailovsky and Soria (1980) tend to be contradictory.

Schaefer and Chopra (1982) analyzed the rhopalid tribes cladistically. Those apomorphies defining Harmostini, and Chorosomatini, and separating the one from the other, are listed in Table 1, together with the states of those characters in *Xenogenus*. The genus shares with Chorosomatini both apomorphies defining that tribe. It possesses none of the four apomorphies that define Harmostini.

I conclude that *Xenogenus* belongs in Chorosomatini, where Chopra (1967) placed it.

#### ACKNOWLEDGMENTS

I am grateful to Dr. Luiz A. A. Costa (Rio de Janeiro), who sent me the specimens of *Xenogenus picturatum* Berg upon which this paper is based.

#### LITERATURE CITED

- Barber, H. G. 1910. Some Mexican Hemiptera-Heteroptera new to the fauna of the United States. *Journal of the New York Entomological Society* 18: 34-39.
- Berg, C. 1883. Addenda et emendanda ad Hemiptera Argentina. *Anales de la Sociedad Científica Argentina* 15: 241-269.
- Brailovsky, H. and F. Soria. 1980. Contribución al estudio de los Hemiptera-Heteroptera de México: XVIII Revisión de la tribu Harmostini Stål (Rhopalidae) y descripción de una nueva especie. *Anales del Instituto de Biología Universidad Nacional Autónoma México* 51 Series Zoológica 1: 123-168.
- Chopra, N. P. 1967. The higher classification of the family Rhopalidae (Hemiptera). *Transactions of the Royal Entomological Society of London* 119: 363-399.
- Distant, W. L. 1893. Insecta. Rhynchota. Hemiptera-Heteroptera (Appendix). Volume 1. In Goodman and Salvin, eds., *Biología Central-Americana*. London. x + 462 pp.
- Göllner-Scheiding, U. 1978. Revision der Gattung *Harmostes* Burm., 1935 (Heteroptera, Rhopalidae) und einige Bemerkungen zu den Rhopalinae. *Mitteilungen aus dem Zoologischen Museum in Berlin* 54: 257-311.
- . 1980. Einige Bemerkungen zu den Gattungen *Corizus* Fallén, 1814, und *Xenogenus* Berg, 1883

- (Heteroptera, Rhopalidae). *Mitteilungen aus dem Zoologischen Museum in Berlin* 56: 111–121.
- . 1983. General-Katalog der Familie Rhopalidae (Heteroptera). *Mitteilungen aus dem Zoologischen Museum in Berlin* 59: 37–189.
- Schaefer, C. W. 1992. The Rhopalinae (Hemiptera: Rhopalidae) and the Palearctic. *Proceedings of the 4th European Congress of Entomology (Gödöllő, Hungary)* 2: 652–654.
- . 1993. Origins of the New World Rhopalinae (Hemiptera: Rhopalidae). *Annals of the Entomological Society of America* 86: 127–133.
- Schaefer, C. W. and N. P. Chopra. 1982. Cladistic analysis of the Rhopalidae, with a list of food plants. *Annals of the Entomological Society of America* 75: 224–233.
- Stål, C. 1873. *Enumeratio Hemipterorum*. Part 3. *Kongliga Svenska Vetenskaps-Akademiens Handlingar*, pp. 1–163.